CPMT 2349 – Advanced Computer Networking (3:3-2) Replaces CPMT 2449

Informal Description: The world today is relies heavily on computers. This course introduces students to protecting computers & networks using operating system software tools and utilities.

Textbooks/Reference/Materials
- Access to http://www.templejc.edu/dept/cis/CCollins/Collins.htm
- Floppy disks or other file storage (home computer, removable USB drive, etc.)

Course Competencies
CIP Code: 47.0104 (Computer Installation and Repair Technology/Technician)
Course Title: Advanced Computer Networking Technology
Course Level: Advanced

Course Description: Network technology emphasizing network operating systems, network connectivity, hardware, and software. Includes implementation, troubleshooting, and maintenance of LAN and/or WAN network environments. Includes Security.

Learning Outcomes: Create a complex network with multilevel access and security; provide routine maintenance; implement troubleshooting and diagnostic procedures.
Suggested Prerequisite: Computer Networking Technology, (ITSC 1305)

COURSE CALENDAR

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<th>16 Week Semester</th>
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See course website for current semester’s calendar, and holidays
Troubleshooting

1. Inventory
   a. Verify compatibility for hardware and firmware (BIOS)

2. No Boot
   a. NO POST → Missing or bad BIOS hardware → Replace
   b. Yes POST → Hard Drive → SCANDISK
   c. → RESTORE
   d. → FDISK
   e. → RESTORE

3. Boots, but hangs after OS begins to load
   a. Restart to Menu → Last Good Configuration
   b. → Safe mode
   c. → command line → SCANREG /RESTORE
   d. Boot ASD/ERD → Repair OS

4. Loads OS, but hangs when a device is started
   a. Non-Printer
      i. Dr. Watson
      ii. Roll back device driver
      iii. Update device driver
   b. Printers
      i. Print test page from printer
      ii. Who can, who can’t
         1. network
         2. permissions
         3. applications

5. Loads OS, but hangs when a program is started
   a. Dr. Watson
   b. Add/Remove software
   c. Dependency Walker

6. Can’t ‘use’ network resources
   a. Check permissions
      i. Right click object, properties, security
   b. Un-encrypt
      i. Cipher /D

7. Memory Issues
   a. Enough RAM?
      i. Failed
         1. www.memtest86.com
      ii. Computer requires more for current usage?
         1. Task Manager/Virtual Memory
   b. Memory Management for Older Computers
      i. Config.sys
         1. Hymem.sys
         2. Emm386.sys

8. Disks
   a. Maintenance
      i. Backup
      ii. Disk Clean up
      iii. Scan Disk
         1. May require preboot execution
      iv. Defragmentation
         1. Linux filesystems self defragment; you do need free space (about 20%) as ext2/3 avoids fragmentation if there is enough space to write contiguous files.
   b. Troubleshooting